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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,672	08/29/2003	Kazumi Kato	242186US0X	7768
22850	7590	04/20/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			XU, LING X	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/650,672

Applicant(s)

KATO ET AL.

Examiner

Ling X. Xu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) 5-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/29/03, 2/20/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election with traverse of Group I in the reply filed on 3/17/2005 is acknowledged. The traversal is on the ground(s) that the relationship between the claims of Group I and II is product and process of using the product not the product and process of making the product as set forth by the Examiner in the prior Office action. Applicant states that the compositional buffer of the claims of Group I is used in a method for manufacturing an electronic ceramic in the claims of Group II by covering the surfaces of the fine crystal grains that make an electronic ceramic with the compositional buffer of the claims of Group I. Accordingly, claimed subject matter in claims 1-4, as indicated by the applicant, is the compositional buffer not the electronic ceramic. Applicant's traversal is found persuasive. However, the restriction requirement is maintained for reasons as follows:

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-4, drawn to a compositional buffer, classified in class 428, subclass 689.
- II. Claims 5-12, drawn to a method for using the compositional buffer, classified in class 427, subclass.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the

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instant case the product as claimed can be used by another and materially different process such as a method of using the composition buffer in a method of making an semiconductor device.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

Applicant has elected Group I, claims 1-4 with traverse. Affirmation of this election must be made by applicant in replying to this Office action. Claims 5-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. The requirement is not made final in this office action.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Abstract***

2. The abstract of the disclosure is objected to because the abstract is over 150 words. Correction is required. See MPEP § 608.01(b).

***Information Disclosure Statement***

3. Applicant has submitted two Information Disclosure Statements with the same documents listed. In addition, the IDS dated 2/20/2004 lists the Japanese references with wrong dates and therefore, only the IDS dated 8/29/2003 will be considered.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-4, it is unclear the claimed subject matter is the compositional buffer or the electronic ceramic. Both the structures of the compositional buffer and the electronic ceramic are recited in the claims. It is also unclear if the compositional buffer or the electronic ceramic is the starting product (raw material), the intermediate product, or the final product. The scope of the claims is unclear.

In light of the specification, the following examination is based on that the claimed subject matter is the compositional buffer not the electronic ceramic. Such interpretation is also consistent with the applicant's interpretation of the claims, which is stated in the Response to the Election/Restriction, as stated above, that the claimed subject matter in Group I, claims 1-4, is the compositional buffer not the electronic ceramic and Group II is a method of using the compositional buffer in a method for making an electronic ceramic.

*Claim Rejections - 35 USC § 102*

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (US 5,948,536).

Suzuki discloses a buffer layer comprising a silicate-based compound, which has an amorphous structure (col. 5, lines 20-45 and col. 7, lines 10-25).

With respect to the structure of the electronic ceramic or thin film thereof recited in claims 1-2 and 4, as stated above, the claimed subject matter is the compositional buffer, the fact that the compositional buffer is used to cover the surfaces of the fine crystal grains that make up the electronic ceramic or thin film thereof does not provide a patentable distinction on the structure of the claimed compositional buffer because the claimed compositional buffer does not include the electronic ceramic or thin film thereof and its surfaces of the fine crystal grains.

It is noted that claim 3 is a product-by-process claim. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps (MPEP 2113). “[E]ven though product – by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the

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prior product was made by a different process.” *In re Thorpe*, 227 USPQ 964, 966. The alkoxide of silicon or the alkoxide of boron is the raw material used to form silicate- or borate-based compound. The final product is a silicate- or borate-based compound. Since Suzuki discloses the same silicate based compound for the buffer layer, Suzuki discloses the claimed compositional buffer.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu  
Examiner  
Art Unit 1775